$$Load = [(ded * 8) + poll]*[1 + \frac{con}{poll + ded}]$$

The capacity is:

$$Capacity = (\#channels - 1) * 8$$

From the market page 2710, if the user selects the HSMP query page 2730, then the market performance management system 430 generates and transmits the HSMP query page 2730 as depicted in FIG. 38. FIG. 38 depicts a HSMP query web page 2730 in an example of the invention. The HSMP query page 2730 allows users to enter IP addresses of any customer-owned equipment or the user ID of a customer's wireless broadband router to survey or troubleshoot any issues related to modem performance. The market performance management system 430 then retrieves the information from a customer database and establishes a secure session that is authenticated and encrypted with the broadcast equipment of the market. This facilitates communication between the user and the customer's wireless broadband router.

From the market page 2710, if the user selects the Hybrid probe page 2740, then the market performance management system 430 generates and transmits the Hybrid probe page 2740 as depicted in FIG. 39. FIG. 39 depicts the Hybrid probe web page 2740 in an example of the invention. The Hybrid probe is one example of the channel probe discussed earlier. The Hybrid probe page 2740 displays performance information from the Hybrid probe. Once the user enters the starting date and time and ending date and time, the market performance management system 430 generates the table in FIG. 39. The table displays performance information for individual IP addresses, totals of IP addresses, and averages of IP addresses. One row displays the IP address, the percentage of active modems that the IP address accounts for, the ratio to active modems, a timer for polling, a timer for dedicated, a number of transmitted bytes in polling, a ratio of transmitted bytes, a number of transmitted bytes for dedicated, a ratio of transmitted bytes, an index, and a ratio.

From the market page 2710, if the user selects the NetScout statistics page 2750, then the market performance management system 430 generates and transmits a NetScout statistics page 2750 with links for top talkers, bits per second (bps), and protocols. The NetScout statistics page 2750 provides performance information from the RMON probe 595. If the user selects the top talkers link with a specified date range, then the market performance management system 430 generates and transmits a top talkers page as depicted in FIG. 40. FIG. 40 depicts the top talker web page in an example of the invention. The top talker page includes the total number of users, total number of upstream bytes for all users, total number of downstream bytes for all users, average number of upstream bytes per user, and average number of downstream bytes per user.

The top talker page also includes a table by specific CyberMaster ID (CMID) number. The table includes the upstream CMID, the upstream megabytes, the upstream percentage of total, upstream information, the downstream CMID, the downstream megabytes, the downstream percentage of total, and downstream information. The upstream and downstream information include links to detail information and customer information such as name, address, and phone number. The detail information is depicted in FIG. 41. FIG. 41 depicts the detail information of the top talker web page in an example of the invention. The detail information breaks down the CMID into table for protocol, IP address, and protocol/IP address. The tables include upstream bytes, upstream percentage of total, downstream bytes, and downstream percentage of total.

From the NetScout statistics page 2750, if the user selects the bps link, then the user may enter date ranges for statistics for market ID and/or sector. After the user enters the date range, the market performance management system 430 displays tables as depicted in FIG. 42. FIG. 42 depicts the bps web page for the NetScout statistics web page 2750 in an example of the invention. The top table shows the statistics by market ID. The table includes market ID, date, hour, number of subscribers, megabits per hour, average per subscriber,

average megabits per second, and peak number of megabits per second. The lower table shows the statistics per sector. The lower table includes the sector ID, date, hour, active subscribers, megabits per hour, average per subscriber per second, and peak number of megabits per second.

5   From the NetScout statistics page 2750, if the user selects the protocol link, then the user may enter date ranges for protocol by IP address and protocol summary. FIG. 43 depicts protocol information for the NetScout statistics web page 2750 in an example of the invention. The top table shows a protocol breakdown for an IP address. The table includes the protocol, the number of

10   downstream kilobytes, and the upstream kilobytes. The lower table shows a protocol summary for the market with the protocol name and the number of megabytes transferred.

From the market page 2710, if the user selects the MRTG page 2770, then the market performance management system 430 generates and transmits

15   the MRTG page 2770 as depicted in FIG. 44. FIG. 44 depicts the MRTG web page 2770 in an example of the invention. The top graph is a time vs. a bytes per second graph for an Ethernet connection. The MRTG page 2770 displays various connections such as Ethernet, DS3, and serial connection in the broadband wireless system 100. Other connections are not shown in FIG. 44 for

20   the sake of simplicity. If the user selects the connection link for more detail, then the market performance management system 430 displays the system, the maintainer, the description, the ifType, the ifName, the maximum speed, and the IP address. The lower graph is the daily graph of time vs. bytes per second for incoming and outgoing traffic. Other graphs, such as weekly, monthly, and yearly

25   graphs, are not shown in FIG. 44 for the sake of simplicity. The lower graph also includes maximum traffic in/out, average traffic in/out, and current traffic in/out.

From the market page 2710, if the user selects the sector probe page 2780, then the market performance management system 430 generates and transmits the sector probe page 2780 as depicted in FIGS. 45 and 46. FIGS. 45

30   and FIG. 46 depict the sector probe web page 2780 in an example of the invention. In FIG. 45, the top two graphs show a time vs. transfer rate in bits per